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Arrhythmias

IMPLANTABLE CARDIOVERTER-DEFIBRILLATOR THERAPY IN PATIENTS WHO HAVE GENETIC HEART DISEASE

Moderated Poster Contributions
Poster Sessions, Expo North
Sunday, March 10, 2013, 3:45 p.m.-4:30 p.m.

Session Title: Arrhythmias: Devices III - Use of Arrhythmia Devices in Novel Patient Populations
Abstract Category: 8. Arrhythmias: Devices
Presentation Number: 1235M-30

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Background: Little is known of ICD therapy in patients who receive implantable cardioverter-defibrillators (ICD) for genetic heart disease (GHD). The aim of this study was to determine if ICD therapy (Rx) differed amongst GHD patients, and between GHD patients and patients who did not have GHD, including ischemic and non-ischemic cardiomyopathy.

Methods and Results: Of 2177 patients who received ICDs at our center from 2000-2011, 316 (14.6%) had GHD, including arrhythmogenic right ventricular dysplasia (ARVD), channelopathies (CHAN), hypertrophic cardiomyopathy (HCM), and left ventricular non-compaction (LVNC). Age, indication, average follow-up and left ventricular ejection fraction (LVEF), and appropriate ICD Rx are shown in the table.

	ARVD n=51	CHAN n=82	HCM n=144	LVNC n=39	P value
Average Age ± SD	43.2±17.4	51.2±19.0	43.8±16.9	50.7±14.8	0.004
Average Follow-up (mos)	54.0±32.7	65.1±38.9	65.9±43.2	38.1±28.7	<0.0001
% Primary prevention	70.6%	39.0%	86.1%	82.1%	<0.0001
Average LVEF ± SD	58.4±10.0	57.1±8.6	61.6±12.7	37.7±16.9	<0.0001
ICD Therapy	24%	29%	17%	21%	<0.0001
Shock	16%	23%	14%	5%	0.0686
Antitachycardia pacing	24%	21%	8%	18%	0.0164
Time to 1st ICD Therapy (mos)	2.9	10.6	20.5	4.9	0.0213

Compared to 1861 patients without GHD, patients with GHD were younger (46.2±17.7 vs 66.7±12.5; p<0.0001), and less likely to receive ICD Rx (21.5% vs 30.0%;p=0.0025) but more received inappropriate shocks (11.7% vs 7.4%; p=0.0041); however, the proportions receiving an ICD for primary prevention (69.9% vs 70.6%; p=0.8656), and the median time to 1st ICD Rx (12.2 vs 17.2 mos; p=0.605) were similar.

Conclusion: Significant differences exist in the need for ICD therapy and the time to 1st ICD Rx amongst patients who have GHD. However, all GHD subgroups benefited from high-voltage shocks and antitachycardia pacing. In general, GHD patients were younger and less likely to receive ICD Rx than patients without GHD.